

REMARKS/ARGUMENTS

Claims 1, 2, 4-18, 40 and 41 are pending in the present application. Claims 1 and 4 were amended and claim 41 was added. No claims were newly canceled. Claims 6-18 and 40 stand withdrawn. Support for the claim amendments can be found in the specification, for example, in paragraphs [0021], [0026] and [0028], and in the original claims. Reconsideration of the claims is respectfully requested in view of the above amendments and the following comments.

The specification has been amended to provide proper support for all terminology used in the claims. No new matter has been added by the amendment to the specification. Support for the amendments can be found in the specification as filed, for example, in the description of two procedures for forming the composite material in paragraphs [0030]-[0037] on pages 8-10.

I. 35 U.S.C. § 103 (Obviousness)

In the Final Office Action dated March 9, 2007, claims 1, 2, 4 and 5 were finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis, U.S. Patent Publication No. 2004/0219855 (hereinafter “Tsotsis”) in view of Gomez et al., U.S. Patent No. 5,319,003 (hereinafter “Gomez”). The final rejection was affirmed by the Board of Patent Appeals and Interferences in a Decision dated August 18, 2009.

Claim 1, as amended herein, is as follows:

1. A two-layer composite material, comprising:
a substantially continuous nonwoven, non-fabric, translucent thermoplastic polyphenylsulfone substrate; and
a plurality of long glass fibers having a melting temperature above the melting temperature of the polyphenylsulfone and laminated within the polyphenylsulfone substrate to form a translucent two-layer composite material, the plurality of long glass fibers being selected from the group consisting of a plurality of long s-type glass fibers and a plurality of long e-type glass fibers, the plurality of long glass fibers providing flammability-resistance to the translucent two-layer composite material and having a fiber density selected to achieve a desired light transmissivity of the translucent two-layer composite material, the translucent two-layer composite material having an average allowable heat release not exceeding a 65/65 standard and being capable of being post processed to form a translucent flammability-resistant component by at least one of bending, cutting, or thermoforming.

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). “*Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.* *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)).”

Applicants respectfully submit that neither Tsotsis nor Gomez nor their combination teaches or suggests all the claim limitations recited in amended claim 1, and that amended claim 1 is not obvious in view of and patentably distinguishes over the cited references in its present form.

Initially, neither Tsotsis nor Gomez nor their combination teaches or suggests a two-layer composite material that has “a substantially continuous nonwoven, non-fabric, translucent thermoplastic polyphenylsulfone substrate” as now recited in claim 1. In the Board Decision dated August 18, 2009, the Board acknowledged that Tsotsis discloses a material having a fabric substrate. The Board further pointed out on page 11 of the Decision that claim 1 on appeal recited only a nonwoven . . . substrate, “not a nonwoven *non-fabric* . . . substrate.”

Claim 1 as amended now specifically recites that the substrate is a substantially continuous nonwoven, non-fabric translucent thermoplastic polyphenylsulfone substrate. Tsotsis does not teach or suggest a non-fabric substrate, and claim 1, as amended, patentably distinguishes over the cited references for at least this reason.

Claim 1 also recites that the substrate is translucent, and further, that the plurality of long glass fibers have “a fiber density selected to achieve a desired light transmissivity of the translucent two-layer composite material.” Previously, the translucent nature of the material was recited only in the preamble of the claim, which the Board suggested may not be a claim limitation. Although Tsotsis may disclose a substrate that may be formed of polyphenylsulfone among other materials, the substrate is made of spunbonded, spunlaced, or mesh fabric. There is no disclosure in Tsotsis that the substrate is translucent. In fact, Tsotsis is directed to producing materials having both high strength and light weight. Although the material is disclosed as being usable in the aerospace industry, it is described as being used for producing large-scale parts, such as airplane wings, not translucent components (see paragraph [0007] of Tsotsis).

Therefore, Tsotsis also does not teach or suggest a “translucent thermoplastic polyphenylsulfone substrate” as now recited in claim 1, or that the plurality of long glass fibers have “a fiber density selected to achieve a desired light transmissivity of the translucent two-layer composite material”, as also recited in claim 1, and claim 1, as amended, patentably distinguishes over the cited references for this reason, as well.

Yet further, claim 1 now recites that the long glass fibers provide flammability-resistance to the translucent two-layer composite material. As indicated above, Tsotsis is directed to a material having high strength. Tsotsis does not mention that the fibers thereof provide flammability-resistance, and certainly does not teach or suggest that the glass fibers provide flammability resistance to a translucent two-layer composite material as recited in claim 1.

Therefore, Tsotsis also does not teach or suggest a plurality of long glass fibers that “provide flammability-resistance to the translucent two-layer composite material” as recited in claim 1 and claim 1 patentably distinguishes over the cited references for this reason also.

Gomez is cited as disclosing e-type and s-type glass fibers and does not supply the deficiencies in Tsotsis as discussed above.

For at least all the above reasons, claim 1, as amended herein, patentably distinguishes over Tsotsis in view of Gomez and is allowable in its present form.

Claims 2, 4, and 5 depend from and further restrict claim 1 and patentably distinguish over the cited references, at least by virtue of their dependency.

New claim 41 has been added to more fully protect Applicants’ invention. Claim 41 depends from and further restricts claim 1 and specifies that the two-layer composite material is

formed by one of a thermal pressing process and a continuous fiber impregnation process. Claim 41 also patentably distinguishes over the cited references in its present form.

II. Conclusion

For at least all the above reasons, claims 1, 2, 4, 5 and 41 patentably distinguish over the cited references and this application is believed to be in condition for allowance. It is, accordingly, respectfully requested that the Examiner so find and issue a Notice of Allowance in due course.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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